NICE Webinar Series

NATIONAL INITIATIVE FOR **CYBERSECURITY** EDUCATION

The Challenge of That First Job in Cybersecurity - Entry Level Roles and How to Qualify

June 17, 2020

National CyberWatch Center

The Challenge of That First Job in Cybersecurity: Entry-Level Roles and How to Qualify

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What's Changed Over the Years?

- Terminology: IA > Infosec > Cybersecurity

- Awareness

- Shrinking time between vulnerability discovery and exploitation development

- Infosec spending

What's Stayed the Same Over the Years?

- IT technical foundation for technical cybersecurity jobs

- Terrible software

- 4-year degree requirement

- Failure executing fundamentals

- Duplication, duplication

How Do We Align Our Education/Training to What Employers Want?

- Align tasks to the Occupational Information Network (O*Net)

functional job roles

How Do We Align Our Education/Training to What Employers Want? (con't)

- National CyberWatch Center Curriculum Standards Panels:

  https://www.nationalcyberwatch.org/csp

How Do We Align Our Education/Training to What Employers Want? (con't)

- Contract training and educational programs

Quickest Pathways into the Workforce?

- Competitions

- Conferences

- Work with the technology: How to Build a Home Lab:

https://www.blackhillsinfosec.com/webcast-how-to-build-a-home-lab

Challenges: Entry-Level Work

- Community College brand

- Very few clearly delineated cybersecurity entry-level jobs

- Difficulty for a student/learner to acquire workplace experience for entry-level jobs

- Credentials (degrees and certifications) valued over capabilities

Opportunities: Entry-Level Work

- Mapping of Courses to Competency Frameworks:

  https://bit.ly/2BZcTXS

Opportunities: Entry-Level Work (con't)

- Map functional job roles to curriculum:
  - Computer Network Defense Analyst
  - Computer Network Defense Infrastructure Support
  - Cyber Defense Analyst
  - Cyber Defense Forensics Analyst
  - Cybersecurity Defense Infrastructure Support/Specialist
  - Digital Forensics
  - Intrusion Detection System (IDS) Technician
  - Network Defense Technician
  - Vulnerability Assessment Analyst

Opportunities: Entry-Level Work (con't)

- Skill Up to Scale Up™

Contact Information

- Casey W. O'Brien

- Executive Director & Principal Investigator

- National CyberWatch Center

- cobrien@nationalcyberwatch.org

National CyberWatch Center

Q & A

empathy
integrity
diversity

COVER LETTERS

DO customize & convey passion for team, company, and mission

DON'T swap company name & send. We can tell the difference

PASSING THE EQ BAR

DO emphasize "solve for yes", collaborative approaches

DON'T use "I" exclusively or reinforce black hoodie hacker stereotypes

Objective indicators of success or aptitude for the role

EXPERIENCE > CERTS / DEGREES

DO link to anything that demonstrates what you can do and accomplish. Ex: prior work experience, Github repositories, websites, talks, papers, Bug Bounty

DO In interviews, focus on results and impact (not job responsibilities)

DON'T showcase degrees, certs, or classes as qualifications for the role. We do not require any degrees or certs for roles on the Security team @ Cloudflare

Well-rounded experiences
Builders
Creative problem solvers

CAPTURE THE FLAG COMPS

DO highlight regional / national accolades in respectable competitions

DON'T list participation in comps or showcase as "work" experience. This connotes shiny object syndrome

OTHER EXPERIENCES

DO seek out defensive / "blue team" experiences. Majority of roles on internal security teams are focused on responding, advising, and building

Q & A

How I got into Cybersecurity

With Zero Experience

Jennifer Bate

Associate Consulting Engineer – Infosec
CDW
June 17,2020

About Me

- Current Role
  - As of March 30, 2020
  - Associate Consulting Engineer – Infosec for CDW
    - Pentester/Ethical Hacker

- Career Relauncher

- BSEE/USAF Veteran Officer

- Career Break to Raise a Family

- Decided to pivot Into IT
  - A+ to Repair Computers?
  - Networking Track at my Local CC (Net+, CCNA)
  - Took the Security + class as a "filler"
  - Capture The Flag: National CyberLeague, aka NCL
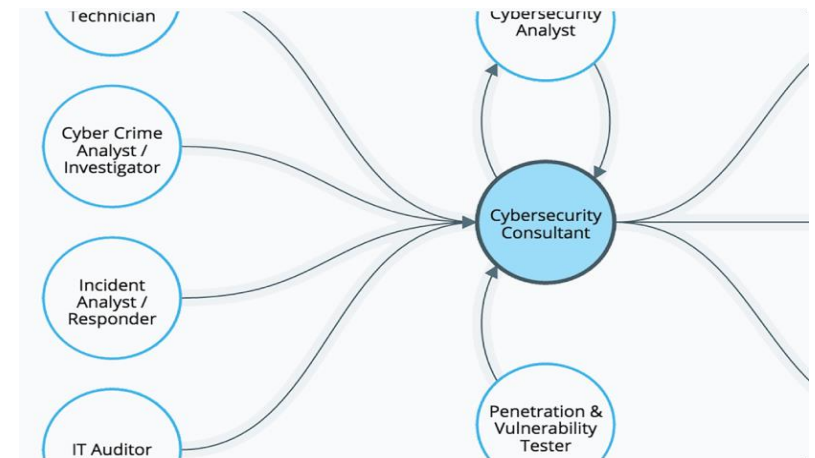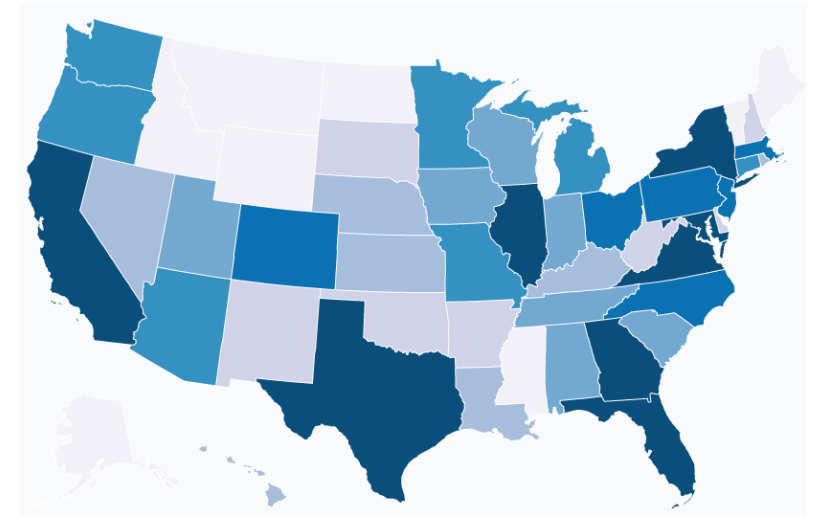 - SANS Womens' Immersion Scholarship 2019
    - GSEC, GCIH, GPEN

Capture the Flag Team

This person is falling down
a rabbit hole

Cybersecurity Industry

- Broad Field
- Many Paths Into It
- Education/Certification/Experience
- www.cyberseek.org
  - Heat map of the US
  - Mind Map of jobs in the industry
- Podcasts
  - Getting Into Infosec
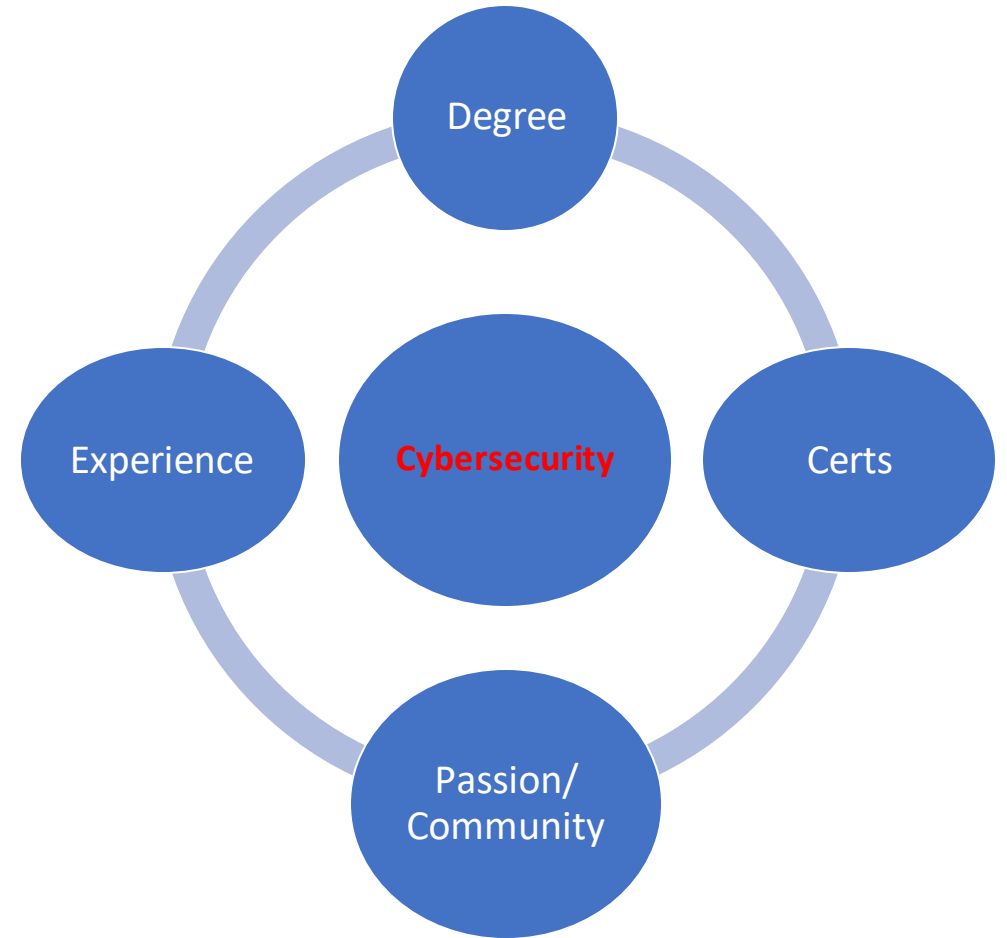 - An Uncommon Journey

Education

Degree or Not to Degree
- BS Electrical Engineering
- Update with IT classes at Local CC
  - Basic OS
  - Basic Networking
  - Basic Security
  - Python, Linux
- Masters Degree?
- Udemy, Coursera, LinkedIn Learning

Certifications
- Comptia Net+, Sec+
- Cisco CCNA
- GIAC (GCSEC), GCIH, GPEN

Passion-Community

Security Club
- Join at your local cc or start one

Local Networking Groups
- ISSA/ISACA/OWASP
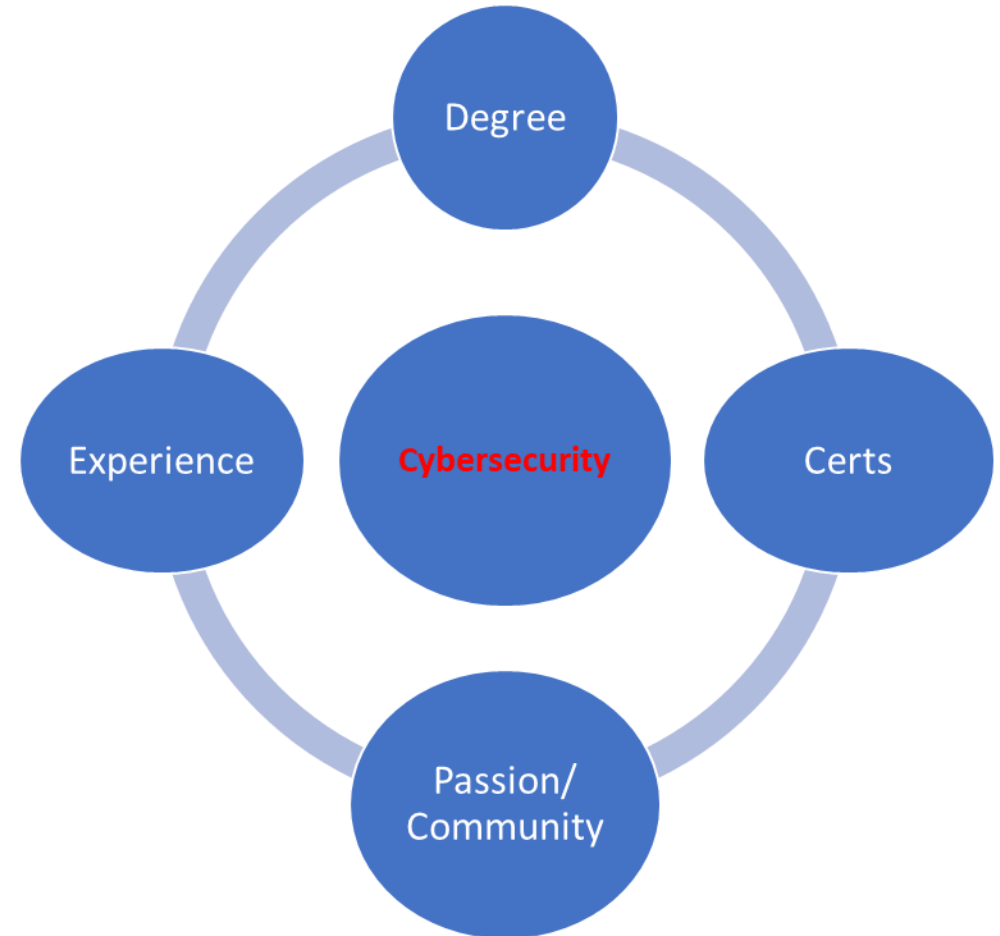- Women In Cybersecurity (WiCys)
- Linkedin

Elevator Pitch

Know What it is That You Want (and don't!)

Twitter – Learn from some interesting people

Capture the Flags- Good way to practice what you've learned

Podcasts (CyberWire, Brakeing Down Security, Darknet Diaries)

Degree

Experience

Cybersecurity

Certs

Passion/
Community

Job Search

Job Listings
- Indeed
- Google
- Make a list of local companies/job boards

Search Term
- Security Analyst, SOC Analyst, Security Engineer
- "Security"
- Names of my Certs

What is "negotiable" to me (and what is not)?
- Can I move
- Am I free to travel and how much?
- Am I willing to work odd hours or weekends
- Would I consider a "job with potential" (sys admin, help desk)

Job Application Process

- <u>Do not apply</u> unless you have the 'Holy Grail'
  - "Req" aka Requisition Number
  - Internal Referral
  - Hiring Manager

- Focus on Quality, not Quantity

- Company website ➡Job Req Number ➡Personal Contact ➡ Internal Referral ➡Hiring Manager
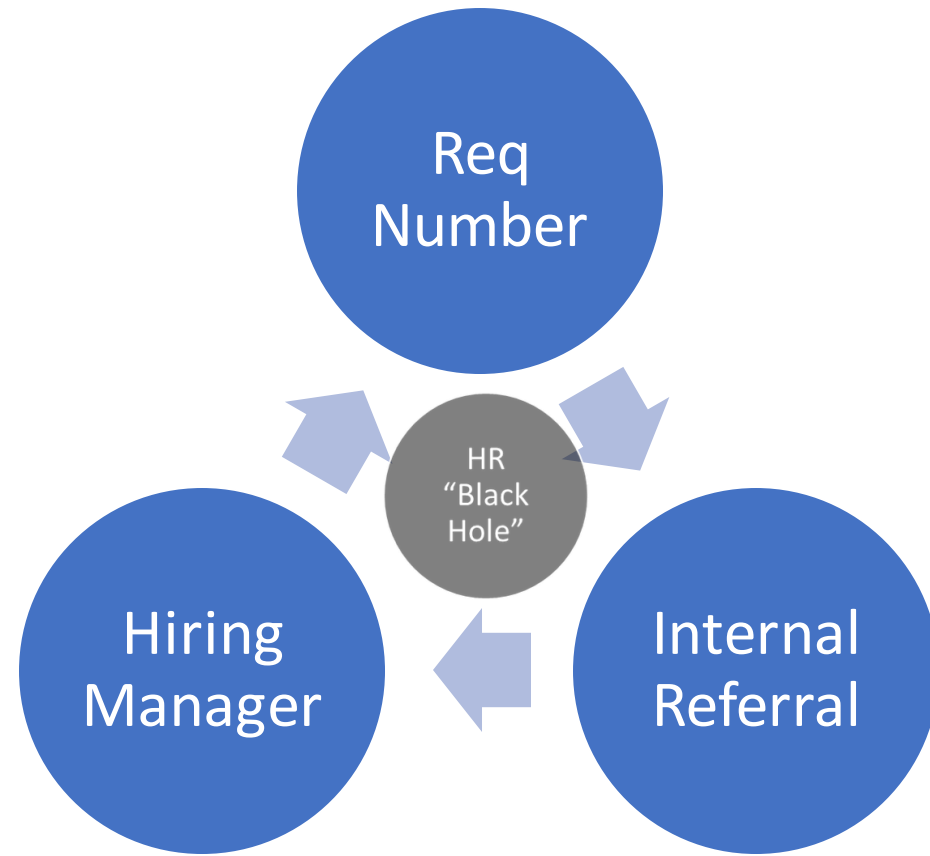
Interviewing

Phone Screen

- Be prepared for technical questions
- Print OSI Model/Port Numbers
- https://danielmiessler.com/study/infosec_interview_questions/

Job Interview

- Study like you are going to take a certification test
- OSINT the Company
- Reverse Engineer the job description
- Interview wherever you are invited (even a job you don't want)

My Result - 4 Offers

- WiCys Event - Contact
- Classmate at Community College
- Linkedin Contact
- Personal Friend

Backup Plan: Bug Bounties & a Blog

Req
Number

HR
"Black
Hole"

Hiring
Manager

Internal
Referral
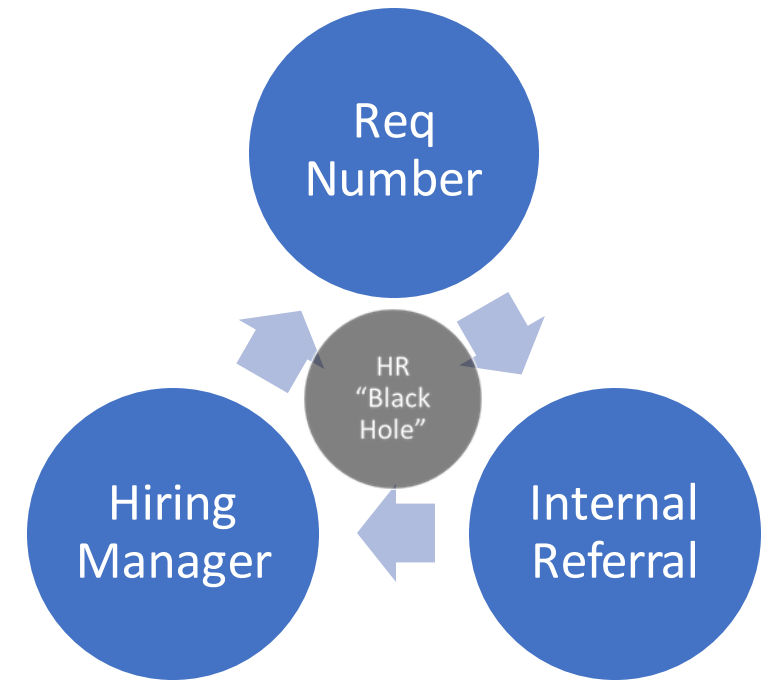
Fall down seven times, get up eight.

~ Japanese Proverb

Q & A

Thank You for Joining Us!

Upcoming Webinar: *What's New - Revisions to the NICE Framework*

When: Wednesday, July 15, 2020, at 2:00 p.m. EDT

Register: https://nist-nice.adobeconnect.com/webinarjuly2020/event/registration.html

nist.gov/nice/webinars